

4.2 LAND RESOURCES

4.2.1 ALTERNATIVE A – PREFERRED ALTERNATIVE: CASINO, HOTEL, CONFERENCE CENTER, AND PARKING FACILITY

TOPOGRAPHY

Construction

Development of the site for a hotel, conference center, casino and parking structure would involve substantial grading and other earthmoving activities. However, it is not anticipated to result in slope instability or landform impacts since site soils are designated by the National Resources Conservation Service (NRCS) as hydrologic groups B and C, which have a slight to negligible erodability factor, indicating that water erosion is a minor problem and the soil is suitable for road construction, building sites, or other intensive use providing other factors are favorable. Soil structure in the surface soil layers is fairly strong. This strong structure and the organic matter in the surface soil help to stabilize soil particles and decrease susceptibility to erosion. As long as cut and fill slopes are not too steep and drainage from impermeable areas such as parking lots are properly designed and maintained, no destabilization of slopes should result. Mitigation requiring preparation of a geotechnical report, a grading, drainage and erosion control plan, and final working design plans that utilize and incorporate existing site topography to the extent possible, rather than altering topography, would ensure potential impacts are reduced to insignificant levels. The general topography would not be significantly impacted by construction of the project as cuts and fills would be balanced. Mitigation measures are described in **Section 5.0**.

Operation

Operation of the site would not cause disturbance to topography. Thus, impacts during operation would be less than significant.

SOILS

The project area does not exhibit soil characteristics likely to be problematic. The topographic position and clay characteristics of site soils are such that flooding, liquefaction, and shrink-swell problems during construction and operation are not a significant hazard and can be engineered properly. Soils in the project vicinity are suitable for building, and commercial and industrial structures have been placed on similar soils in the project vicinity without problems such as subsidence and soil slope instability. The climate of the area is moderate, reaching temperatures below freezing on an occasional basis. Thus, frost action hazards are low. The size of the project parcel and variety of soil types would also provide opportunity to avoid or reduce potential issues related to soil limitations, through design changes, if necessary. Physical and chemical properties of soils sometimes require engineered foundations and grading plans for commercial structures. Mitigation, listed in **Section 5.0**, for soils and other land resources has been incorporated into the

project and includes the preparation of a grading, drainage, and erosion control plan. Preparation of this plan by a qualified professional would ensure that facilities are located on stable soils and slopes and that erosion during construction is minimized.

FAULTS

There are no known active or potentially active faults in the region that could produce seismic activity that would significantly affect the proposed hotel, conference center, casino, or parking facility. There are no known Alquist-Priolo Earthquake Fault Zones located on or near the site. Slope movements are not anticipated to be a factor in building design or construction. Earlier investigators have identified hillsides at the site as being potentially subject to the non-catastrophic type of slope movement known as creep. Creep is defined as shallow, relatively slow down-slope movement of surficial materials occurring under the influence of gravity. Proper foundation design will negate the effects of creep.

Damage to the proposed facilities from an earthquake-triggered tsunami is difficult if not impossible to forecast. A scenario run by the California Department of Conservation estimated that a tsunami would run up to 8th Street in Crescent City. Implementation of current design standards in the Uniform Building Code appropriate for the anticipated earthquake intensity of this risk level would minimize or prevent severe damage to the proposed project. No mitigation is required.

MINERAL RESOURCES

Construction and operation of the proposed project would not result in the loss of mineral resources. As described in **Section 3.0**, no known mineral resources are found within the project area. No mitigation is required.

4.2.2 ALTERNATIVE B – GOLF COURSE, HOTEL, CONFERENCE CENTER, AND PARKING FACILITY (NON-GAMING ALTERNATIVE)

TOPOGRAPHY

Construction

Development of the site under the Non-Gaming Alternative is not anticipated to result in slope instability or landform impacts. Potential impacts would be similar, but greater, than those identified for the Proposed Action. The mitigation measures described for the Proposed Action in **Section 5.0** would apply.

Operation

Operation of the facilities would not result in any disturbance to topographical features, thus the impact would be less than significant.

SOILS

Soils in the project vicinity are suitable for construction of buildings and grading of a golf course. Potential impacts with regard to soils would be greater to those identified for the Proposed Action. Engineered foundations would be required for the Hotel/Conference Center building. The mitigation measures described in **Section 5.0** would apply.

FAULTS

Implementation of current design standards would avoid or reduce severe damage to the Hotel/Conference Center facility. Mitigation measures necessary to reduce potential earthquake hazards would be the same as those discussed for the Proposed Action in **Section 5.0**.

MINERAL RESOURCES

Construction under the Non-Gaming Alternative would not result in the loss of mineral resources. As described in **Section 3.0**, no known mineral resources are found within the project area. No mitigation would be required.

4.2.3 ALTERNATIVE C – CASINO, HOTEL, CONFERENCE CENTER, GOLF COURSE AND PARKING FACILITY

TOPOGRAPHY

Construction

Development of the site under Alternative C is not anticipated to result in slope instability or landform impacts. Potential impacts would be similar, but greater, than those identified for the Proposed Action. The mitigation measures described for the Proposed Action in **Section 5.0** would apply.

Operation

Operation of the facilities would not result in any disturbance to topographical features, thus the impact is less than significant.

SOILS

Soils in the project vicinity are suitable for construction. Potential impacts with regard to soils would be greater than those identified for the Proposed Action. Engineered foundations would be required for the Hotel/Conference Center and Casino building. The mitigation measures described in **Section 5.0** would apply.

FAULTS

Implementation of current design standards would avoid or reduce severe damage to the Hotel/Conference Center and Casino facility. Mitigation measures necessary to reduce potential earthquake hazards would be the same as those discussed for the Proposed Action in **Section 5.0**.

MINERAL RESOURCES

Construction under Alternative C would not result in the loss of mineral resources. As described in **Section 3.0**, no known mineral resources are found within the project area. No mitigation would be required.

4.2.4 ALTERNATIVE D – ENDERTS BEACH DEVELOPMENT

TOPOGRAPHY

Construction

Development of the site for a hotel/casino would involve grading and other earthmoving activities. However, it is not anticipated to result in slope instability or landform impacts, as the site is relatively level and contains site soils designated by the NRCS as hydrologic groups B and C, which have a slight to none erodability factor, indicating that water erosion is a minor problem and the soil is suitable for road construction, building sites, or another intensive use providing other factors are favorable. As long as cut and fill slopes are minimized and drainage from impermeable areas such as parking lots are properly designed and maintained, no destabilization should result. Implementation of the mitigation measures described for the Proposed Action in **Section 5.0** would further reduce potential impacts.

Operation

Operation of the facilities would not result in any disturbance to topographical features, thus the impact is less than significant.

SOILS

The project area does not exhibit soil characteristics likely to be problematic. The topographic position and clay characteristics of site soils are such that flooding, liquefaction, and shrink-swell problems during construction and operation are not a significant hazard and can be engineered properly. Soils in the project vicinity are suitable for building, and commercial and industrial structures have been placed on similar soils in the project vicinity without problems such as subsidence and soil slope instability. Frost action hazards are low. The Tribe would construct the project in accordance with the then current Uniform Building Code, which considers soil limitations. Physical and chemical properties of soils sometimes require engineered foundations and grading plans for commercial structures. Mitigation, listed in **Section 5.0**, for soils and other land resources has been incorporated into the project and includes the preparation of a grading,

drainage, and erosion control plan. Preparation of this plan by a qualified professional would ensure that facilities are located on stable soils and slopes and erosion during construction is minimized.

FAULTS

There are no known active or potentially active faults in the region that could produce seismic activity that would affect the proposed hotel or gaming facility. There are no known Alquist-Priolo Fault Zones located on or near the site. If the land remained in fee status, Del Norte County would not require a special geologic study prior to approving a development located at the project site.

Slope movements are not anticipated to be a factor due to the level nature of the property. Damage to the proposed facilities from an earthquake-triggered tsunami is difficult if not impossible to forecast, but risks would certainly be greater than under the Proposed Action. A scenario run by the California Department of Conservation estimated that a tsunami would reach 8th Street in Crescent City. The effects of a tsunami could be devastating, if not catastrophic for the proposed Enderts Beach facility because of its topographic position and close proximity to the ocean.

Implementation of current design standards in the Uniform Building Code appropriate for the anticipated earthquake intensity of this risk level would minimize or prevent severe damage to the project. No mitigation would be required.

MINERAL RESOURCES

Construction of the project at Enderts Beach would not result in the loss of mineral resources. No known mineral resources are found within the parcel. No mitigation would be required.

4.2.5 ALTERNATIVE E – NO ACTION

Under the No-Action Alternative, land would not be brought into trust for the benefit of the Tribe for the purposes of constructing a commercial enterprise. All sites would continue to be used for existing purposes until such time as they are developed for another use. Topography and soils would remain undisturbed. No landform, soil, or seismic impacts would occur under this alternative.